Date: Thu, 18 Aug 94 04:30:29 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #243
To: Ham-Homebrew

Ham-Homebrew Digest Thu, 18 Aug 94 Volume 94 : Issue 243

Today's Topics:

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

Date: 17 Aug 94 11:07:46 -0500
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!
spool.mu.edu!news.nd.edu!leo.bsuvc.bsu.edu!00tlzivney@network.ucsd.edu
Subject: Active Filters
To: ham-homebrew@ucsd.edu

It's been over 15 years since I've designed any active filters, but I
seem to recall that the voltage across the feedback elements will
be multiplied by the Q of the network. This implies that a high-Q
section will of necessity have a limited dynamic range. For example,
many of us would consider an input audio level of 1 v rms "ok", yet
when one factors in the peak-to-peak levels times the Q of the section,
we see that limiting is sure to occur with +/- 15 volt supplies on
the op amp. This would be worse with 9 volt batteries, or single
polarity configurations.

Just my two cents worth.

Terry Zivney, N4TZ
00tlzivney@bsuvc.bsu.edu

Date: Wed, 17 Aug 94 20:26:56 EDT
From: tulane!darwin.sura.net!opusc!UNIVSCVM.CSD.SCAROLINA.EDU!T230579@ames.arpa
Subject: ATTN PAUL COOPER RE: TERMAN's
To: ham-homebrew@ucsd.edu

Well Paul, I hope you get to read this. I have been waiting excitedly for about ten days for Terman's book to arrive. I thought that maybe you were waiting for the check to clear, maybe mail transfer from Canada to the U.S. is slow, I just didn't know. But you know why the book never made it don't you? It's because you never got the money!!!

I know this because I got the letter back today for INSUFFICIENT POSTAGE! It is postmarked Aug 9, 1994. Just another aspect of the U.S. snail.

I will take the letter to the post office tomorrow to maKE sure that I get it r right this time. Also, sorry for posting here, but I have lost your e-mail address. I would really appreciate it if you would send it to me again...

Thanks for your patience, and sorry for the mix up,

Dan Kline <t230579@univscvm.csd.scarolina.edu>

Date: Wed, 17 Aug 1994 15:15:38 GMT
From: netcomsv!netcom.com!btoback@decwrl.dec.com
Subject: Current Capacity?
To: ham-homebrew@ucsd.edu

In article <32qvql$pc5@news.iastate.edu> kenman@iastate.edu (Kenneth D Anderson) writes:
>I've looked all over and can't find it. Is there a data book that has
>information for "small" circuit components?

I don't have it handy, but this information is in the ARRL Handbook.

-- Bruce KN6MN

Date: 16 Aug 1994 22:19:23 GMT
From: nntp.crl.com!lgenco@decwrl.dec.com
Subject: Current Capacity?
To: ham-homebrew@ucsd.edu

In article <32qvql$pc5@news.iastate.edu>,
kenman@iastate.edu (Kenneth D Anderson) wrote
>
> Could someone please email the current capacity of 24 AWG copper wire
> (stranded). It will be used at 13.8V.

Date: Tue, 16 Aug 1994 17:24:01 +0000
From: hookup!yeshua.marcam.com!MathWorks.Com!europa.eng.gtefsd.com!
howland.reston.ans.net!pipex!demon!lfheller.demon.co.uk!Leon@ames.arpa
Subject: HELP: Providing power by induction??
To: ham-homebrew@ucsd.edu

In article <1994Aug16.112800.2208@csdvax.csd.unsw.edu.au>
           u1066579@csdvax.csd.unsw.edu.au writes:

>
> Hi,
>   I am interested in how I can supply power to a circuit without the need
> for any physical contacts. I thought that I could have two coils. One would
> be connected to an AC source (the transmitting coil), the other coil (the
> receiving coil) would be connected to my circuit. I would then have a bridge
> rectifier on the output from the "receiving coil" to provide DC for the
> circuit.
> Can someone tell me if this is practical? How should I go about constructing
> the coils? Are there any references anyone know of on "wireless"power
> supplies?
>
> Best Wishes,
> Henry.
> PS:Plz E-mail if possible my E-mail address is:
>
>   u1066579@csdvax.csd.unsw.edu.au
>

This definitely works. The technique is used for powering surgical
implants.

Leon

--
Leon Heller, G1HSM
E-mail: leon@lfheller.demon.co.uk
Tel: +44 (0)734 266679

Date: Tue, 16 Aug 1994 06:29:09 +0000
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!howland.reston.ans.net!pipex!demon!
lfheller.demon.co.uk!Leon@network.ucsd.edu
Subject: Need TCM3105 ic
To: ham-homebrew@ucsd.edu

In article <89593.BSoranno@vax2.winona.msus.edu>
           BSoranno@vax2.winona.msus.edu "Bill Soranno KB0NKX" writes:

> Where can I get more information on the "Poor Man's Packet interface".
> Does it have a standard serial port, or is it an internal board for a
> particular computer?
>
> Any info would be appreciated.
>
> Bill Soranno -- KB0NKX
> 7 Fairfax
> Winona, MN 55987
> 507/452-3789
>
This is presumably something like the Baycom packet modem. I built one
and it works fine. It is basically a very simple 1200 baud modem that
is self-powered by a PC serial port. All the packet stuff that is handled
by the Z80 or whatever on a conventional TNC is done by software running
on the PC itself. There are similar packages using the same modem for
other systems like Macs and Amigas. Ramsey supply a kit for the PC.

Leon
--
Leon Heller, G1HSM
E-mail: leon@lfheller.demon.co.uk
Tel: +44 (0)734 266679

Date: Tue, 16 Aug 1994 19:35:07 GMT
From: ihnp4.ucsd.edu!news.cerf.net!mvb.saic.com!eskimo!rdonnell@network.ucsd.edu
Subject: TNC construction article
To: ham-homebrew@ucsd.edu

BSoranno@vax2.winona.msus.edu wrote:

: Does anybody know of a construction article for a "general purpose" TNC?

: These are my reguirements:
: 1) Standard serial connection. (I have 4 different computers and would like
:   to be able to connect to all).

: 2) An internal processor of some type to minimize the overhead on the
:   computer.

: If these are too strict, please let me know.
: Thanks.

: Bill Soranno -- KB0NKX
: 7 Fairfax
: Winona, MN 55987
: 507/452-3789

No - most of the construction articles would be for RTTY terminal units, and pretty old now. Other than some of the now outdated packet-only controllers offered in the mid 80's, there have not been any construction articles I know of for an intellegent data interface. The closest you would have been likely to come was Heathkit's HK-232 clone of the AEA's PK-232, offered as a kit. Heath has been out of the kit business for about 3 years now, so unless you find someone who got a kit and never started it, you're pretty much out of luck. Part of the problem is that the companies that make the multi-mode TNCs have invested lots of money in the programming of their products to support the various modes, and are not interested in giving away their efforts. Also, since these are tightly integrated hardware and software products, the software wouldn't really work on anything else.

I have seen programs mentioned for non-intellegent interfaces usign a PC for the processing, as I'm sure you have, and that, combined with an older dumb modem or terminal unit design is going to be your best chance to get something going that you build. Even with the inexpense of used PC systems to dedicate, its usually not cost effective as compared to one of the commercially manufactured products.

Good luck in your search.

73, Bob

--

Bob Donnell, kd7nm bob@ethanac.kd7nm.ampr.org rdonnell@eskimo.com
Western Washington Amateur IP Address Coordinator (206) 775-3651

Date: 16 Aug 1994 21:48:08 GMT
From: koriel!newsworthy.West.Sun.COM!abyss.West.Sun.COM!usenet@RUTGERS.EDU
Subject: TNC construction article
To: ham-homebrew@ucsd.edu

In article BSoranno@vax2.winona.msus.edu, <BSoranno@vax2.winona.msus.edu> writes:
>Does anybody know of a construction article for a "general purpose" TNC?
>
>These are my reguirements:
>1) Standard serial connection. (I have 4 different computers and would like
>   to be able to connect to all).
>
>2) An internal processor of some type to minimize the overhead on the
>   computer.
>
>If these are too strict, please let me know.
>Thanks.

Well, I haven't seen any kits or construction articles exactly. But the
TAPR TNC-2 bare PC board and the excellent manual and circuit charts
that come with it are, last I heard, available from TAPR for $40. No,
not cheap, but a nice PCB. The TNC-2 has been a defacto standard,
it uses a Z-80 CPU and Z-80 SIO/0. If you build it up with new CMOS
parts and all, you'll probably spend as much $$ buying a KPC-3.
However, you'll learn a lot and it is quite functional. The TNC-2
uses a Exar XR-2211/2206 chipset for the modem, you could leave this
off and build your own modem using a TCM3105, Am7910 or 73K302, all of
these have the advantage of crystal controlled tones rather than the
XR-2206 variable resistor method.

You can also roll your own; design a Z-80 CPU with Z85C30 SCC and 32k
each of ROM and RAM, and build it, and write the software. Yeah, it sounds
daunting, but you'd learn *everything* about AX.25 packet in the real world.
For a modem, the TCM3105 is a popular 1200 baud modem with low current drain.
The SSI 73K302 (I think) is a nice Bell 202/103 modem, but it requires more
effort to interface than the TCM3105...

Have fun!

----
 * Dana H. Myers KK6JQ, DoD#: j | Views expressed here are
    *
 * (310) 348-6043 | mine and do not necessarily   *
 * Dana.Myers@West.Sun.Com | reflect those of my employer
    *

 * "Sir, over there.... is that a man?"   *

Date: Wed, 17 Aug 94 07:53:52 PDT
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!cs.utexas.edu!convex!
news.duke.edu!MathWorks.Com!news.kei.com!ssd.intel.com!chnews!
news@network.ucsd.edu
Subject: Where can I find RG-302 & RG-303 ?
To: ham-homebrew@ucsd.edu

Im rebuilding the phaseing delay lines for my KLM amateur satellite yagis and need to located a source to acquire about ten feet of RG-302 75 ohms and ten feet of RG-303 50 ohms, teflon coax cable.

RG-302 & RG-303 both have teflon dielectric and a silvered copper shield, both have inner conductors of silver-plated copper-plated steel. They are designed for high-temperature operation. I suspect they were selected by the antenna manufacturer because of low temperature coefficients. I don't want to use Radio Shack 75 ohm TV cable.

Different velocity factors between teflon and polyethylene.

polyethylene = 66.5%   teflon = 69%

KLM sells the complete phaseing kit replacements for $49 each, however I feel I should be able to replace just the coax for at least half that price.

If anyone knows of a source for RG-302 & RG-303, please post here or reply via eMAIL direct.

Thanks and 73s,
Tom - WB7ASR...   (not speaking for Intel)

tom_boza@ccm.hf.intel.com

Date: 16 Aug 1994 21:34:15 GMT
From: ihnp4.ucsd.edu!news.cerf.net!nntp-server.caltech.edu!netline-
fddi.jpl.nasa.gov!elroy.jpl.nasa.gov!sdd.hp.com!hpscit.sc.hp.com!
rkarlqu@network.ucsd.edu
To: ham-homebrew@ucsd.edu

References <489@ted.win.net>, <32o936$b4n@hpscit.sc.hp.com>,
<493@ted.win.net>jpl.nasa
Subject : Re: Active Filters (was Re: toroids)

In article <493@ted.win.net>, Michael Silva <mjsilva@ted.win.net> wrote:

>I'd like to hear more from those in the know on this subject. No
>commercial gear still uses audio LC filters, does it? Is the TL071
>series good enough for reasonable results (I've settled on these for
>generic experimenting). I've got the "Active Filter Cookbook", how
>good is it? What other easily-available references are recommended?
>
>Mike, KK6GM

Books of the "Active Filter Cookbook" genre (just bought a copy at the
flea market over the weekend!) tend to recommend circuits such as
Sallen-Key negative feedback which require a gain bandwidth product
in the op amps proportional to a constant times Q^2 times the center frequency.
An RTTY mark filter at 2125 Hz. with a Q of say 25 yields a required
bandwidth of the constant times 1.2 MHz. The constant is typically 9
which gives you over 10 MHz., and that's the minimum. Operating just
over the minimum makes the circuit extremely sensitive to the op
amp temperature and voltage and in any case, it will have to be
trimmed back to the right frequency and Q. You really should be
using something like an OPA620 with 200 MHz. GBW product. Some
designs also have problems with magnifying component value errors,
where a 1% resistor error will move the center frequenc
10% or more. Another problem is spread of component values.
Many popular designs have a spread of 9Q^2,
meaning for a Q of 10, the biggest capacitor is 900 times the
smallest one.

I guess in summary I would say that building filters is harder than
it looks in the books if the Q is more than 2 or 3, and even that
Q may be non trivial if the frequency is very high.

Rick N6RK
rkarlqu@scd.hp.com

Date: (null)
From: (null)

End of Ham-Homebrew Digest V94 #243
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